

Remarks:

Reconsideration of the application is requested.

Claims 1-19 and 21 remain in the application. Claim 10 has been amended. Claim 20 has been cancelled. Claims 1-9 and 21 have been withdrawn from consideration.

In the fourth paragraph on page 2 of the above-mentioned Office action, claims 10, 12, 15, and 17-19 have been rejected as being anticipated by Oxford (US Pat. No. 4,060,097) under 35 U.S.C. § 102(b).

The rejection has been noted and claim 10 has been amended in an effort to even more clearly define the invention of the instant application. Support for the changes is found in original claim 20.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

inserting at least one semiconductor device having at least one deposited layer of photoresist material into the reactor;

inserting fluid ingredients for removing the photoresist material from the semiconductor device into a heated fluid. (Emphasis added.)

Oxford teaches an automatic etching system wherein the composition of etchant solution withdrawn from an etcher is monitored to diagnose a component deficiency. A light sensor is responsive to the color density of light rays passing through the etchant. In particular, the etchant according to Oxford is a solution of cupric chloride which is effective in etching metal from a workpiece, wherein there is a continuous reduction of the cupric to cuprous ions. Cuprous ions are totally ineffective as an etchant and have a tendency to retard the etching procedure. As the etching procedure continues, the concentration of copper in a solution increases (see column 1, lines 7-24).

The invention of the instant application concerns a completely different process for removing an organic material from a semiconductor device, namely photoresist material. A special reactor designed for such process is applied for inserting fluid ingredients for removing the photoresist material from the semiconductor device. In order to employ such a process in a proper manner, the fluid for taking the fluid ingredients for removing the photoresist material from the semiconductor device has to be heated. Here, it is of great importance that the process according to the invention of the instant application is not an etching process (e.g. such as a process for selective etching of metal layers in the depth of a metal layer by a reticle or mask), but a removing process for removing organic

photoresist material from an aerially arranged surface of the semiconductor device. Organic material is not to be removed by etching. This significant difference in the process type also becomes apparent when reading page 2, lines 6-19 of the specification of the instant application.

Accordingly, in a removing process to remove organic material, carbon components of the photoresist material are oxidized and formed into carbon dioxide and the hydrogen components are formed into water. For this process, the fluid is heated, e.g. up to 130°C.

In contrast, according to Oxford, during etching of copper workpieces there is a continues reduction of the cupric to cuprous ions. The cuprous ions are totally ineffective as an etchant and have a tendency to retard the etching procedure, whereas the concentration of copper in the solution increases. As can be seen from Fig. 1 of Oxford, such a metal etching process does not apply a heated fluid and has to deal with completely different fluid and reactive components that make the etching procedure gradually less efficient. Hence, the detection of color density of light rays transmitted through the fluid must be different and specifically adapted to the respective process type.

Since Oxford and the invention of the instant application concern completely different processes, a person skilled in the art would not consult Oxford when dealing with a problem concerning a process for removing photoresist material from a semiconductor device.

Clearly, Oxford does not show "inserting at least one semiconductor device having at least one deposited layer of photoresist material into the reactor; inserting fluid ingredients for removing the photoresist material from the semiconductor device into a heated fluid", as recited in claim 10 of the instant application.

Claim 10 is, therefore, believed to be patentable over Oxford and since claims 12, 15, and 17-19 are dependent on claim 10, they are believed to be patentable as well.

In the fourth paragraph on page 4 of the above-mentioned Office action, claim 11 has been rejected as being unpatentable over Oxford in view of O'Neill et al. (US Pat. No. 5,683,538) under 35 U.S.C. § 103(a).

As discussed above, claim 10 is believed to be patentable over the art. Since claim 11 is dependent on claim 10, it is believed to be patentable as well.

In the third paragraph on page 5 of the above-mentioned Office action, claims 13, 14, and 20 have been rejected as being unpatentable over Oxford in view of Applicants' Admitted Prior Art under 35 U.S.C. § 103(a).

As discussed above, claim 10 is believed to be patentable over the art. Since claims 13 and 14 are ultimately dependent on claim 10, they are believed to be patentable as well. Claim 20 has been cancelled.

In the first paragraph on page 6 of the above-mentioned Office action, claim 16 has been rejected as being unpatentable over Oxford in view of Dennis (US Pat. No. 4,710,261) under 35 U.S.C. § 103(a).

As discussed above, claim 10 is believed to be patentable over the art. Since claim 16 is dependent on claim 10, it is believed to be patentable as well.

In view of the foregoing, reconsideration and allowance of claims 10-19 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,



For Applicants

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